

Claims:

1. A process for producing an SiO_2 -containing insulating layer on chips, wherein at least one silicon compound from the group consisting of vinylsilanes, alkylalkoxysilanes, alkylarylalkoxysilanes, arylalkoxysilanes, C_1 - and $C_3\text{-}C_5$ -alkyl orthosilicates, orthosilicates having glycol radicals, orthosilicates having polyether radicals, hydrogenalkoxysilanes, hydrogenaryloxy silanes, alkylhydrogensilanes, alkylhydrogenalkoxysilanes, dialkylhydrogenalkoxysilanes, arylhydrogensilanes, arylhydrogenalkoxysilanes, acetoxy silanes, silazanes, siloxanes, organofunctional silanes bearing at least one acetoxy, azido, amino, cyano, cyanato, isocyanato or ketoimato group, organofunctional silanes containing at least one heterocycle, with the silicon atom being able to belong to the heterocycle itself or be covalently bound to this, and mixtures of at least two silicon compounds of the classes mentioned here and mixtures of tetraethoxysilane with at least one silicon compound of the classes mentioned here is used as precursor.
2. The process as claimed in claim 1, wherein the production of an SiO_2 -containing insulating layer on chips is carried out by means of the CVD technique or by the spin-on method.
3. The process as claimed in claim 1 or 2, wherein at least one precursor from the group consisting of vinyltrimethoxysilane, vinyltriethoxysilane, vinylsilanes having polyether radicals or glycol radicals, vinyltris(methoxyethoxy)silane, vinylmethyldialkoxysilane, vinylarylalkoxysilanes, methyltrimethoxysilane, ethyltrimethoxysilane, ethyltriethoxysilane, propyltrimethoxysilane, propyltriethoxysilane, butyltrimethoxysilanes, butyltriethoxysilanes, phenyltrimethoxysilane, phenyltriethoxysilane, propylmethyldimethoxysilane, methyl orthosilicate, n-propyl orthosilicate, tetrabutyl glycol orthosilicate, amyltrimethoxysilane, bis(methyltriethyleneglycol)dimethylsilane, 2-(cyclohex-3-enyl)ethyltriethoxysilane, cyclohexylmethylidimethoxysilane, cyclohexyltrimethoxysilane, cyclopentylmethyldimethoxysilane, cyclopentyltrimethoxysilane, di-i-butylmethoxysilane, di-i-propylmethoxysilane, dicyclopentylmethoxysilane, dimethylid-

ethoxysilane, diphenyldimethoxysilane, vinyltriacetoxysilane, 2-phenylethyltriethoxysilane, 2-phenylethylmethyldiethoxysilane, 3-methacryloxypropyltrimethoxysilane, 3-acryloxypropyltrimethoxysilane, 3-methacryloxy-2-methylpropyltrimethoxysilane, 3-acryloxy-2-methylpropyltrimethoxysilane, methyltrimethoxysilane, methylpropyltrimethoxysilane, methylpropyltrimethoxysilane, trimethoxysilane, triethoxysilane, dimethylethoxysilane, triethylsilane, methyltriacetoxysilane, ethyltriacetoxysilane, vinyltriacetoxysilane, di-tert-butoxydiacetoxysilane, heptamethyldisilazane, hexamethyldisilazane, N,O-bis(trimethylsilyl)acetamide, 1,3-divinyltetramethyldisilazane, hexamethyldisiloxane, 1,3-divinyltetramethyldisiloxane, 1,1,3,3-tetramethyldisiloxane, 3-acetoxypropyltrimethoxysilane, 3-acetoxypropyltriethoxysilane, trimethylsilyl acetate, 3-azidopropyltriethoxysilane, N-(n-butyl)-3-aminopropyltrimethoxysilane, 3-amino-propyltrimethoxysilane, 3-aminopropyltriethoxysilane, 3-amino-2-methylpropyltriethoxysilane, 3-aminopropylmethyldimethoxysilane, 3-aminopropylmethyl-diethoxysilane, 3-cyanopropyltriethoxysilane, trimethylsilyl nitrile, 3-cyanato-propyltrimethoxysilane, 3-cyanatopropyltriethoxysilane, 3-isocyanatopropyltrimethoxysilane, isocyanatopropyltriethoxysilane, methyltris(methylethylketoximato)silane, N-(1-triethoxysilyl)ethylpyrrolidone-2, 3-(4,5-dihydroimidazolyl)propyltriethoxysilane, 1-trimethylsilyl-1,2,4-triazole, 3-morpholinopropylmethyldiethoxysilane, 3-morpholinopropyltriethoxysilane and 2,2-dimethoxy-1-oxa-2-sila-6,7-benzocycloheptane and condensed or cocondensed silanes, oligosiloxanes and polysiloxanes is used.

4. An insulating layer for chips obtainable as claimed in any of claims 1 to 3.

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5. A chip having an insulating layer obtainable as claimed in any of claims 1 to 3.

6. The use of precursors as set forth in any of claims 1 to 3 for producing an insulating layer on chips.